



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/516,645

12/01/2004

Lars Rene Christian Waumans

NL020940US

8771

24737

7590

03/27/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SANEI, HANA ASMAT

ART UNIT

PAPER NUMBER

2889

MAIL DATE

DELIVERY MODE

03/27/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/516,645	<b>Applicant(s)</b> WAUMANS ET AL.	
	<b>Examiner</b> HANA A. SANEI	<b>Art Unit</b> 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-26 is/are pending in the application.
- 4a) Of the above claim(s) 14-16, 21 and 22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 11, 17, 18 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 10, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/3/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on 1/3/08, has been entered and acknowledged by the Examiner.

Cancellation of claim(s) 2 has been entered.

Claim(s) 1, 3-26 are pending in the instant application.

### ***Election/Restrictions***

Claims 14-16, 21-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected distinction of Rsr and PHg, there being no allowable generic or linking claim.

Applicant's species election with traverse of Species II, including claim(s) 19-20 in Application No. 10/516645, filed on 7/18/07 is acknowledged.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7, 9, 11, 24, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baaten et al (US 5216323) in view of Nakai (US 4625152 A) in further view of van den Bogert (WO 01/15204 A1), hereinafter referred to as Bogert.

Regarding Claim 1, Baaten teaches a light-transmitting discharge vessel (see at least Figs. 1-3), the discharge vessel (1, "discharge vessel") enclosing, in a gastight manner (Col. 2, lines 59-60), a discharge space provided with an inert gas mixture and with mercury (Ar, mercury, Col. 2, lines 60-61), a first portion (first side of circular circumference of 1) of the discharge vessel being provided with a first electrode (3) arranged in the discharge space and with a luminescent layer (5, "first luminescent layer"), which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to 1000 nm ("generates mainly UVA emission and in addition some UVB emission," Col. 3, lines 5-7), a second portion (second side of circular circumference of 1, the second side being at 180° from the first side) the discharge vessel being provided with a second electrode (2) arranged in the discharge space, which second portion, in operation, radiates light in a second range (6, "second luminescent layer") of the electromagnetic spectrum from 100 to 1000 nm ("mainly UVA emission and in addition some UVB emission," Col. 3, lines 9-10), said second range being different from the first range ("the quantity of emitted UVB energy as a percentage of the quantity of UVA radiation emitted by the first luminescent material, **differs** from that of the second luminescent material," Col. 3, lines 14-17, [directions A, B]), that wherein: the low-pressure mercury vapor discharge lamp (1) comprises current supply conductors (adjacent to 2, 3, refer now to Fig. 1a), and the discharge space contains

only two electrodes (2, 3); wherein the discharge space contains only two electrodes.

Baaten is *silent* regarding the type of current received.

In the same field of endeavor, Nakai teaches a low-pressure mercury lamp (see at least Fig. 3) having control means for receiving controlling level and relative contributions of light radiated from the first and second portions using a direct current ("DC power source," Col. 5, lines 4-6) in order to ensure that the luminance brightness for the tubular envelopes can be adjusted to provide an optimum illumination level (Col. 3, lines 9-12). Baaten-Nakai fails to teach the use of amalgam.

In the same field of endeavor, Bogert teaches low pressure mercury lamp (see at least Fig. 1) wherein an amalgam (27, "auxiliary amalgam," Pg. 5, lines 28-30) is provided in the discharge vessel in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp (Pg. 2, lines 25-33).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the current application, as disclosed by Nakai, in the lamp of Baaten in order to ensure that the luminance brightness for the tubular envelopes can be adjusted to provide an optimum illumination level and to add the amalgam, as disclosed by Bogert, in the lamp of Baaten-Nakai in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp.

Regarding Claim 2, Baaten-Nakai teaches the invention set forth above (see rejection in Claim 1 above). Baaten-Nakai fail to teach the use of amalgam.

In the same field of endeavor, Bogert teaches low pressure mercury lamp (see at least Fig. 1) wherein an amalgam (27, "auxiliary amalgam," Pg. 5, lines 28-30) is provided in the discharge vessel in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp (Pg. 2, lines 25-33).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the amalgam, as disclosed by Bogert, in the lamp of Baaten-Nakai in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp.

Regarding Claim 3, Baaten-Nakai-Bogert teaches that the amalgam (27, of Bogert) is provided in the region between the first and the second portion of the discharge vessel (refer to Fig. 1 & Fig. 2). Motivation to combine is the same as stated above in the rejection of Claim 1.

Regarding Claim 4, Baaten-Nakai-Bogert teaches that the amalgam (27, of Bogert) is provided in the region of the electrode of the portion of the discharge vessel with the lowest color temperature (Fig. 2). Motivation to combine is the same as stated above in the rejection of Claim 1.

Regarding Claim 5, Baaten-Nakai-Bogert teaches that the amalgam (27, of Bogert) is provided in the region of the first electrode, and a further amalgam is provided

in the region of the second electrode (25, 25'). Motivation to combine is the same as stated above in the rejection of Claim 1.

Regarding Claim 6, Baaten teaches a light-transmitting discharge vessel (see at least Figs. 1-3), the discharge vessel (1, "discharge vessel") enclosing, in a gastight manner (Col. 2, lines 59-60), a discharge space provided with an inert gas mixture and with mercury (Ar, mercury, Col. 2, lines 60-61), a first portion (first side of circular circumference of 1) of the discharge vessel being provided with a first electrode (3) arranged in the discharge space and with a luminescent layer (5, "first luminescent layer"), which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to 1000 nm ("generates mainly UVA emission and in addition some UVB emission," Col. 3, lines 5-7), a second portion (second side of circular circumference of 1, the second side being at 180° from the first side) the discharge vessel being provided with a second electrode (2) arranged in the discharge space, which second portion, in operation, radiates light in a second range (6, "second luminescent layer") of the electromagnetic spectrum from 100 to 1000 nm ("mainly UVA emission and in addition some UVB emission," Col. 3, lines 9-10), said second range being different from the first range ("the quantity of emitted UVB energy as a percentage of the quantity of UVA radiation emitted by the first luminescent material, **differs** from that of the second luminescent material," Col. 3, lines 14-17, [directions A, B]), that wherein: the low-pressure mercury vapor discharge lamp (1) comprises current supply conductors (adjacent to 2, 3, refer now to Fig. 1a), and the discharge space contains only two electrodes (2, 3). Baaten is *silent* regarding the type of current received.

In the same field of endeavor, Nakai teaches a low-pressure mercury lamp (see at least Fig. 3) receiving a direct current ("DC power source," Col. 5, lines 4-6) in order to ensure that the luminance brightness for the tubular envelopes can be adjusted to provide an optimum illumination level (Col. 3, lines 9-12). Baaten-Nakai fail to teach the use of amalgam.

In the same field of endeavor, Bogert teaches low pressure mercury lamp (see at least Fig. 1) wherein an amalgam (27, "auxiliary amalgam," Pg. 5, lines 28-30) is provided in the discharge vessel, wherein a cold spot (15, of Bogert) is provided in the discharge vessel, which operates to improve speed of achieving a desired color output of the lamp (the structural configuration of the "cold spot" of Bogert characteristically renders the increased "speed") in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp (Pg. 2, lines 25-33).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the current application, as disclosed by Nakai, in the lamp of Baaten in order to ensure that the luminance brightness for the tubular envelopes can be adjusted to provide an optimum illumination level and to add the amalgam, as disclosed by Bogert, in the lamp of Baaten-Nakai in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp.



Regarding Claim 7, Baaten-Nakai-Bogert teaches that the cold spot (15, of Bogert) is provided in the region between the first and the second portion of the discharge vessel. Motivation to combine is the same as stated above in the rejection of Claim 6.

Regarding Claim 9, Baaten teaches a wall of the second portion (second side of circular circumference of 1, the second side being at 180° from the first side) of the discharge vessel is made from a glass (“tubular glass discharge vessel 1,” Col. 2, lines 58-59) which is transmissive to UV (Col. 3, lines 5-10).

Regarding Claim 11, Baaten teaches the second portion (second side of circular circumference of 1, the second side being at 180° from the first side) of the discharge vessel is provided with a further luminescent (6, “second luminescent layer”).

Regarding Claim 17, Baaten teaches the luminescent layer (5) of the first portion comprises a luminescent material emitting UV-A radiation (“generates mainly UVA emission and in addition some UVB emission,” Col. 3, lines 5-7), and in that the further luminescent layer (6) of the second portion comprises a luminescent material emitting UV-B radiation or emitting UV-A and UV-B radiation (“mainly UVA emission and in addition some UVB emission,” Col. 3, lines 9-10).

Regarding Claim 24, Baaten teaches that a lamp housing (housing encapsulating the discharge, Figs. 1-3) is attached to the discharge vessel of the low-pressure mercury-vapor discharge lamp, which lamp housing is provided with a lamp cap (lower most portion of lamp).

Regarding Claim 26, Baaten teaches a discharge vessel (1, “discharge vessel,” See at least Figs. 1-3) including a first cylindrical end (first side of **partial** circular circumference of 1) surrounding a first electrode (3) and including a first luminescent layer (5, “first luminescent layer”), the first luminescent layer (5) being suitable for radiating in a first range of the electromagnetic spectrum from 100 to 1000 nm (“generates mainly UVA emission and in addition some UVB emission,” Col. 3, lines 5-7); a second cylindrical end (second side of **partial** circular circumference of 1, the second side being at 180° from the first side) surrounding a second electrode (2) and including a second luminescent layer (6, “second luminescent layer”), the second luminescent layer (6) being suitable for radiating in a second range of the electromagnetic spectrum from 100 to 1000 nm (“mainly UVA emission and in addition some UVB emission,” Col. 3, lines 9-10), the second range being different from the first range; no additional electrodes (as in Baaten). Baaten is *silent* regarding the type of current received.

In the same field of endeavor, Nakai teaches a low-pressure mercury lamp (see at least Fig. 3) having a direct current supply means (“DC power source,” Col. 5, lines 4-6) for controlling level and relative contributions of the first and second luminescent layers to a spectral output of the lamp in order to ensure that the luminance brightness for the tubular envelopes can be adjusted to provide an optimum illumination level (Col. 3, lines 9-12). Baaten-Nakai fails to teach the use of amalgam.

In the same field of endeavor, Bogert teaches low pressure mercury lamp (see at least Fig. 1) wherein an amalgam (27, “auxiliary amalgam,” Pg. 5, lines 28-30) arranged

Art Unit: 2889

between the first and second cylindrical ends and away from the electrodes (that the amalgam, 27, is spaced apart from the electrodes, Examiner understands this to be "away" from the electrodes, Fig. 1) in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp (Pg. 2, lines 25-33).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the current application, as disclosed by Nakai, in the lamp of Baaten in order to ensure that the luminance brightness for the tubular envelops can be adjusted to provide an optimum illumination level and to add the amalgam, as disclosed by Bogert, in the lamp of Baaten-Nakai in order to provide a lamp having a relatively short run-up time behavior due to more mercury being loosened relatively more rapidly when an auxiliary amalgam is utilized during the starting of a discharge lamp.

2. Claim(s) 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baaten et al (US 5216323) in view of Nakai (US 4625152 A) in further view of van den Bogert (WO 01/15204 A1) in further view of Busai et al (US 20030230979).

Regarding Claim 8, Baaten-Nakai-Bogert teaches the invention set forth above (see rejection in Claim 1 above). Baaten-Nakai-Bogert fails to teach the amalgam provided in a region of the cold spot.

In the same field of endeavor, Busai teaches a discharge lamp (See at least Figs. 1-2) having an amalgam provided in a region of the cold spot ("The amalgam is

Art Unit: 2889

optimally positioned near a cold spot of the lamp, for example near a tip of the discharge tube,” [0002]) in order to prevented the amalgam from rolling freely about in the discharge space, thereby preventing it from colliding with the electrodes and scratching off the light emitting layer from the internal surface of the discharge vessel ([0002]).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the location of the amalgam, as disclosed by Busai, in the discharge lamp of Baaten-Nakai-Bogert in order to prevented the amalgam from rolling freely about in the discharge space, thereby preventing it from colliding with the electrodes and scratching off the light emitting layer from the internal surface of the discharge vessel.

3. Claim(s) 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baaten et al (US 5216323) in view of Nakai (US 4625152 A) in further view of van den Bogert (WO 01/15204 A1) in further view of Jennato et al (US 5666031 A).

Regarding Claim 18, Baaten-Nakai-Bogert teaches the invention set forth above (see rejection in Claim 1 above). Baaten-Nakai-Bogert fails to teach an alternating current.

In the same field of endeavor of low pressure lamps, Jennado teaches that the current is received as either direct or alternating (Col. 4, lines 60-63), thus exemplifying recognized equivalent current applications of the lamp in the art. Jennado teaches the suitability of using a low pressure lamp being provided as a DC or an AC power supply in order to ensure proper current pulses generated during application of the device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the current receiver of Baaten-Nakai-Bogert as alternating instead of as direct, since the selection of any of these known equivalents would be considered within the level of ordinary skill in the art as evidenced by Jennato's teaching.

4. Claim(s) 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baaten et al (US 5216323) of prior record in view of Nakai (US 4625152 A) in further view of van den Bogert (WO 01/15204 A1) in further view of Miyazaki et al (US 5773937 A).

Regarding Claim 23, Baaten-Nakai-Bogert teaches the invention set forth above (see rejection in Claim 1 above). Baaten-Nakai-Bogert is silent amount of mercury.

In the same field of endeavor, Miyazaki teaches a low pressure mercury lamp ("low vapor pressure of the filler of the discharge lamp," Col. 6, lines 47-49) having less than 0.2 mg mercury (Col. 25, lines 45-49) in order to provide a discharge lamp which has a cheap and simple structure (Col. 5, lines 21-24).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the amount of mercury, as disclosed by Miyazaki, in the lamp of Baaten-Nakai-Bogert in order to provide a discharge lamp which has a cheap and simple structure.

5. Claim(s) 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baaten et al (US 5216323) in view of Nakai (US 4625152 A) in further view of van den Bogert (WO 01/15204 A1) in further view of Wesselink et al (US 5982089 A).

Regarding Claim 25, Baaten-Nakai-Bogert teaches the invention set forth above (see rejection in Claim 1 above). Baaten-Nakai-Bogert fail to teach a diffuser.

In the same field of endeavor, Wesselink teaches a discharge lamp (see at least Figs. 2-3) surrounded by a diffusely scattering light-transmitting envelope (14, diffuser) which is attached to the lamp housing (17) in order to adequately diffuse the light, thereby providing a more uniform light distribution (Col. 1, lines 62-66).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the diffuser, as disclosed by Wesselink, in the discharge lamp of Baaten-Nakai-Bogert in order to adequately diffuse the light, thereby providing a more uniform light distribution.

#### ***Allowable Subject Matter***

A. Claim(s) 10 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a low-pressure mercury vapor discharge lamp comprising a light-transmitting discharge vessel, the discharge vessel enclosing, in a gastight manner, a discharge space provided with an inert gas mixture and with mercury, a first portion of the discharge vessel being provided with a first electrode arranged in the discharge space and with a luminescent layer, which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to 1000 nm, a second portion of the discharge vessel being provided with a second

electrode arranged in the discharge space, which second portion, in operation, radiates light in a second range of the electromagnetic spectrum from 100 to 1000nm, said second range being different from the first range, wherein: a) the low-pressure mercury vapor discharge lamp comprises i. control means for receiving controlling level and relative contributions of light radiated from the first and second portions using a direct current, and ii. an amalgam; and b) the discharge space contains only two electrodes.

However, the prior art of record neither shows nor suggests a motivation for the luminescent layer yielding a spectral characteristic stimulating melatonin built-up in a human subject or yields a spectral characteristic suppressing the melatonin built-up or stimulating melatonin degradation in the human subject as set forth in Claim 10.

B. Claim(s) 12 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a low-pressure mercury vapor discharge lamp comprising a light-transmitting discharge vessel, the discharge vessel enclosing, in a gastight manner, a discharge space provided with an inert gas mixture and with mercury, a first portion of the discharge vessel being provided with a first electrode arranged in the discharge space and with a luminescent layer, which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to 1000 nm, a second portion of the discharge vessel being provided with a second electrode arranged in the discharge space, which second portion, in operation, radiates

Art Unit: 2889

light in a second range of the electromagnetic spectrum from 100 to 1000nm, said second range being different from the first range, wherein: a) the low-pressure mercury vapor discharge lamp comprises i. control means for receiving controlling level and relative contributions of light radiated from the first and second portions using a direct current, and ii. an amalgam; and b) the discharge space contains only two electrodes, characterized in that the second portion of the discharge vessel is provided with a further luminescent layer.

However, the prior art of record neither shows nor suggests a motivation for the further luminescent layer yielding a spectral characteristic suppressing the melatonin built-up in a human subject or stimulating melatonin degradation or yields a spectral characteristic stimulating melatonin built-up in the human subject as set forth in Claim 12.

C. Claim(s) 13 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a low-pressure mercury vapor discharge lamp comprising a light-transmitting discharge vessel, the discharge vessel enclosing, in a gastight manner, a discharge space provided with an inert gas mixture and with mercury, a first portion of the discharge vessel being provided with a first electrode arranged in the discharge space and with a luminescent layer, which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to



Art Unit: 2889

1000 nm, a second portion of the discharge vessel being provided with a second electrode arranged in the discharge space, which second portion, in operation, radiates light in a second range of the electromagnetic spectrum from 100 to 1000nm, said second range being different from the first range, wherein: a) the low-pressure mercury vapor discharge lamp comprises i. control means for receiving controlling level and relative contributions of light radiated from the first and second portions using a direct current, and ii. an amalgam; and b) the discharge space contains only two electrodes.

However, the prior art of record neither shows nor suggests a motivation for the luminescent layer yields a spectral characteristic stimulating melatonin built-up in the human subject and that the second portion comprises a further luminescent layer that yields a spectral characteristic suppressing the melatonin built-up or stimulating melatonin degradation in the human subject as set forth in Claim 10

D. Claims 19-20 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a low-pressure mercury vapor discharge lamp comprising a light-transmitting discharge vessel, the discharge vessel enclosing, in a gastight manner, a discharge space provided with an inert gas mixture and with mercury, a first portion of the discharge vessel being provided with a first electrode arranged in the discharge space and with a luminescent layer, which first portion, in operation, radiates light in a first range of the electromagnetic spectrum from 100 to 1000 nm, a second portion of the discharge vessel being provided with a second electrode arranged in the discharge space, which second portion, in operation, radiates

Art Unit: 2889

light in a second range of the electromagnetic spectrum from 100 to 1000 nm, said second range being different from the first range, that wherein: the low-pressure mercury vapor discharge lamp comprises current supply conductors for receiving a direct current, and the discharge space contains only two electrodes, wherein the discharge lamp comprises an at least partly substantially cylindrical discharge vessel with a length  $L_{\text{sub.dv}}$  and with an internal diameter  $D_{\text{sub.in}}$ , wherein the ratio of the weight of mercury  $m_{\text{sub.Hg}}$  in the discharge vessel and the product of the internal diameter  $D_{\text{sub.in}}$  and the length of the discharge vessel  $L_{\text{sub.dv}}$  is given by the relation:  $3 m_{\text{sub.Hg}} D_{\text{sub.in}} \cdot L_{\text{sub.dv}} = C$ .

However, the prior art of record neither shows nor suggests a motivation for  $C_{\text{ltoreq}} 0.01 \text{ .}\mu\text{g/mm}\cdot\text{sup.2}$  as set forth in Claim 19.

Claim 20 is allowable because of their dependency status from claim 19.

### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Pat. No. 6917154 to Bolta et al.

### ***Response to Arguments***

Applicant's arguments filed on 1/3/08 have been fully considered but they are not persuasive.

A. In response to Applicant's arguments that Baaten et al (Pat. No. 5216323) does not disclose "a first portion" of the discharge vessel being provided with a first electrode arranged in the discharge space and "a second portion" of the discharge vessel being

provided with a second electrode arranged in the discharge space, the Examiner respectfully disagrees.

While the claims are read in light of the specification, limitations from the specification cannot be read into the claims. The Examiner is required to give the claim its broadest reasonable interpretation, as is done so in the instant application.

Therefore, since the Examiner understands the claim language "a first portion (first side of circular circumference of 1 "discharge vessel," Figs. 1-3) of the discharge vessel being provided with a first electrode (3) arranged in the discharge space" to be defined some electrode in proximity to the claimed discharge space, the phrase is reasonably interpreted as merely requiring that the first electrode be disposed within the discharge space. Since Baaten teaches this, the Examiner considers the prior art as meeting the claim requirement. Examiner suggests that applicant not rely on phrases such as "provided with" or "arranged in" to solely define a rather specific structural location of an element (ie: "first electrode") with respect to other structural elements (as drawn to applicant's drawings).

Even to Claim 26, the applicant claims, for example, "a first cylindrical end surrounding a first electrode" since no structural requirement of the first cylindrical end -- -- partially -- or -- entirely -- surrounding the first electrode is made, Baaten's device still reads on the claims in the instant application.

Additionally, to Claim 18, Examiner introduces Jennato to show that since Jennato teaches that the current is received as either direct or alternating (Col. 4, lines 60-63), Jennato thus exemplifying recognized equivalent current applications of the

Art Unit: 2889

lamp in the art. Jennado teaches the suitability of using a low pressure lamp being provided as a DC or an AC power supply in order to ensure proper current pulses generated during application of the device.

B. In response to Applicant's arguments that the combination of Baaten and Nakai (Pat. No. 4625152) is not obvious, the Examiner respectfully disagrees.

Examiner introduces Nakai for the sole purpose of teaching a particular driving means, as Baaten is literally *silent* regarding this property of the lamp. That Nakai teaches more than two electrodes is irrelevant as Examiner is not relying on Nakai to teach a certain number of electrodes. Additionally, the driving means is not directly correlated to the number of electrodes.

Nakai still teaches a low-pressure mercury lamp (see at least Fig. 3) receiving a direct current ("DC power source," Col. 5, lines 4-6) in order to ensure that the luminance brightness for the tubular envelops can be adjusted to provide an optimum illumination level (Col. 3, lines 9-12).

C. In response to Applicant's arguments regarding van den Bogert (WO 01/15204).

For the record, Examiner did indeed intend to cite WO 01/15201 as WO 01/15204 to van den Bogert.

To the claim language employed in the instant application in conjunction with Examiner's broadest reasonable interpretation (pertaining to Claim 3) see Response to Arguments (A).

To Claim 4, Examiner understands that the cold spot is a relatively cool location, thereby establishing a lower color temperature.

For the reasons stated above, the rejection of the claims is deemed proper.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571)-272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ Hana A. Sanei /  
Examiner

Application/Control Number: 10/516,645  
Art Unit: 2889

Page 21

/Joseph L. Williams/  
Primary Examiner, Art Unit 2889